



Phase Separator

Pressure Adjustable

Stainless steel, over-head horizontal type vacuum jacketed cryogenic conditioning system designed to store LN₂ at user required pressure setting. Once the system has been set up, the liquid Level and pressure is automatically control by the controller. The controller comes with a HMI to allow user to set their required pressure.

All Phase Separators comes with CSM renowned customer service, from conceptual design to implementation, and are backed by a one year warranty.

Phase Separator - Pressure Adjustable

Pressure adjustable Phase Separator is used for stepping down the pressure of liquid nitrogen in the pipe line. This is done by venting out excessive vapor while maintaining a constant liquid supply capacity for downstream consumption. The result is a high quality, low pressure liquid nitrogen with precise temperature control at the user's point of use.

CSM Phase Separator is a vacuum insulated reservoir holding tank for liquid nitrogen with a pressure & level control system. The controller will operate its inlet proportional control valves to regulate the liquid level, and another vent proportional valve to regulate the user's required set pressure.

Related Products:



Vent Heater

Typical Applications

- Test Handlers in semiconductor IC Assembly and Test
- Environmental Chambers
- Bottling Lines and Packaging
- Food Freezing

Features and Benefits

- Consistent liquid nitrogen delivery, dramatically improving process control and efficiency.
- User friendly operator controls with level & pressure alarm.
- Vacuum jacketed vessel for frost-free operation.
- User adjustable output pressure for all models.
- HMI with digital display of liquid level and pressure readings.
- Modbus output available.

Phase Separator Specifications

Model	C22P	C48P	C76P
Operational Capacity* / Full capacity	6 gal (22 L) 10 gal (36 L)	12.6 gal (48 L) 20 gal (76 L)	20 gal (76 L) 32 gal (120 L)
Outlets (horizontal)	1 (C10)	2 (C10)	1 (C10 or C15)
Max. Inlet Pressure	130 psi (8.6 bar)	145 psi (10 bar)	145 psi (10 bar)
Max. Back Pressure	58 psi (4 bar)	87 psi (6 bar)	87 psi (6 bar)
Vessel MAWP	130 psi (8.6 bar)	145 psi (10 bar)	145 psi (10 bar)
Max. Withdrawal Rate	5 gal/minute (19 LPM)	28 gal/minute (106 LPM)	40 gal/minute (150 LPM)
Weight – Empty – Full	108 lbs (49 kg) 146 lbs (66 kg)	132 lbs (60 kg) 225 lbs (102 kg)	Consult Factory
Level Control Sensor	Capacitance		
Vacuum Insulation	Static Vacuum only		
System Utilities	Electricity: 80 – 240 VAC, GN2 @40 psig (2.7 bar)		
Certifications	NEMA 4X, CE		
Materials	Stainless Steel Series 300		
Standard Testing	Dimensional Check He leak checked 1 x 10 ⁻⁹ cc/s		
Optional	Pneumatic pressure test, Vacuum retention testing, LN2 cold shock, pre-material certs., CFOS cleaning for O2 services, X-ray, ASME coded pressure vessels BPVC Section VIII		

*Factory preset operating capacity, field adjustable by user depend on liquid flow output requirement and in-coming liquid saturation characteristic

Phase Separator Dimensions

Model	H1	H2	L1	L2	L3	L4
C22	16.4" (417 mm)	31.5" (799 mm)	21.6" (549 mm)	24.4" (620 mm)	14.2" (361 mm)	14.3" (364 mm)
C48	21.7" (550 mm)	33.5" (850 mm)	25.8" (655 mm)	33.9" (860 mm)	23.1" (585 mm)	14.3" (364 mm)
C76	21.7" (550 mm)	33.5" (850 mm)	25.8" (655 mm)	43.3" (1100 mm)	29.1" (739 mm)	14.3" (364 mm)

